PATENT
Attorney Docket No. 218791
DHHS Ref. No. E-265-97/0

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Wang et al.

Application No. 09/529,206

Art Unit: 1642

Examiner: N. Davis

Filed: June 13, 2000

For: NOVEL HUMAN CANCER ANTIGEN NY ESO-1/CAG-3 AND GENE ENCODING THE SAME

AMENDMENT AND RESPONSE TO OFFICE ACTION

Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

In response to the Office Action dated July 30, 2002, please enter the following amendments and consider the following remarks.

AMENDMENTS

IN THE SPECIFICATION:

Please replace the paragraph at page 53, lines 4-20, with the following:

To define antigenic peptides, we found the 10-mer ASGPGGGAPR (SEQ ID NO.: 25) derived from the NY-ESO-1 protein as the best antigenic peptide recognized by CTL clone 5 although the 9-mer, 11-mer, 12-mer, 13-mer, 14-mer and 15-mer peptides were also recognized. This reactivity may be due to the presence of two proline residues in these peptides. Proline residues in the core peptide sequence may allow the peptides to bulge out of the MHC binding pocket, thus the anchored residues in the longer peptides can still fit into the HLA-A31 molecule. An alternative explanation is that the longer peptides may be processed to the shorter peptides by extracellular or serum proteases (38). However, when the longer peptides were pulsed onto 586EBV B cells in serum-free conditions, they were still recognized by CTL clone 5 (data not shown). This experiment, however, does not exclude the possibility that these longer peptides were processed by extracellular proteases. The modified peptide, ATGPGGGAPR (SEQ ID NO.: 38) with a substitution of Thr for Ser appeared to slightly improve binding affinity to the MHC class